

- 26 -

Claims

1. A method for selecting a diversity mode (A, B, C)  
to be applied by  
5 a transmitter  
having two cross-polarized antenna arrays  
(Ant1, Ant 2), each representing a diversity  
branch,  
for transmission diversity,  
10 the method comprising the steps of:  
providing (S10) a plurality of diversity mode  
performance chart look-up tables (LUT, LUT1, LUT2, LUT3),  
each performance chart look-up table mapping  
a respective individual diversity mode (A, B,  
15 C) out of a plurality of individual diversity modes  
to a respective pair of time correlation value (TC) and  
space correlation value (SC) for said two cross-polarized  
antenna array beams,  
wherein a respective individual diversity mode is  
20 presented by a mapping area,  
wherein the plurality of performance chart look-up  
tables is parameterized by an indication of a ratio  
(P1/P2) of received powers from said diversity branches,  
and  
25 the mapping is different for different performance  
charts,  
first determining (S11) the ratio of received powers  
from said diversity branches,  
second determining (S12) the actual time correlation  
30 and space correlation for said pair of two cross-  
polarized antenna arrays,  
first selecting (S13) one of said performance chart  
look-up tables dependent on determined ratio (P1/P2) of  
received powers from separate beams, and

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- 27 -

second selecting (S14) one of said individual diversity modes (A, B, C) according to the mapping to the determined actual time correlation (TC) and space correlation (SC) values from said first selected performance chart look-up table.

2. A method according to claim 1, wherein said selected diversity mode is selected for each individual link established by the transmitter.

3. A method according to claim 1, wherein said mapping of diversity modes differs for different performance chart look-up tables dependent on the determined ratio of received powers from said diversity branches.

4. A method according to claim 1, wherein said diversity modes are classified as open-loop diversity modes (A) and closed-loop diversity modes (B, C), and said determined ratio of received powers is applied as a further control parameter for controlling said closed-loop diversity modes when activated upon selection.

5. A method according to claim 3, wherein said diversity modes are classified as open-loop diversity modes and closed-loop diversity modes, and a mapping area of at least one closed-loop diversity mode (C) increases (Fig. 2, Fig. 3) dependent on the indication of a ratio of received powers from said diversity branches.

6. A method according to claim 1, wherein

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- 28 -

said first determining and said second determining are performed at said transmitter.

7. A method according to claim 1, wherein

5 providing said performance chart look-up tables is effected beforehand based on simulation results and/or measurement cycles.

8. A method according to claim 1, wherein

10 both arrays consists of one antenna element and antenna calibration in the transmitter is performed by using both the feedback from said receiver according to one of the closed-loop modes, and the received signals from cross-polarized antenna arrays in the transmitter.

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